



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,864	11/20/2003	Daniel M. Brown	MEMS-0206-US	5645

7590 07/08/2004
KCO LAW
P.O. Box 220472
Chantilly, VA 20153-0472

EXAMINER

SPECTOR, DAVID N

ART UNIT	PAPER NUMBER
----------	--------------

2873

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/716,864

Applicant(s)

BROWN, DANIEL M.

Examiner

David N. Spector

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003 and 20 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: DETAILED ACTION.

DETAILED ACTION

Objections to the Claims

1. Claims 4 and 10 are objected to because of the following minor informalities therein:

In regard to claim 4 Claim 4 recites the limitation “integrator lens” (Claim 4, Line 2). This is confusing within the context of the beam integrator claimed therein (*e.g. the integrator lens is not the only lens in the integrator*). The examiner suggests an alternative recitation of the aforesaid limitation (*e.g. inter alia: beam combining lens; reimaging lens*). Appropriate correction is required.

In regard to claim 10 Claim 10 recites the limitation “first end of a housing structure” (Claim 10, Line 2). There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Objections to the Drawings

2. The drawings are objected to because the shading included in **FIG. 3** through **FIG. 7** (inclusive) is unacceptable (see 37 CFR 1.152). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. More specifically, independent claim 1 recites a beam integrator wherein "the optical array integrates the plurality of beams into fewer beams of increased relative intensity" (Claim 1, Lines 6-7); whereas, in all of the beam integrator(s) of the instant disclosure, the optical array simply rotates each of the plurality of beams through an angle of 90 degrees about their respective axes, while it is the so-called 'integrator lens' that actually integrates said plurality of beams into fewer beams of increased relative intensity. Claim 1 is therefore rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement along with claims 2-9 which depend from claim 1.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the construction of the phrase "additional microelements collimating the energy emitted by said laser emitters and focused by said incident micro-lens to produce a collimated and phase coherent combination of the outputs of each of said laser emitters to decrease the size of and increase the concentration of the emitted coherent energy" (Claim 13, Lines 9-12) recited in the last four lines of the claim appears to associate a particular 'means' (e.g. *additional microelements*) with a multiplicity of possible 'functions' (e.g. collimating; producing a collimated and phase coherent combination of the outputs of each of said lasers; and/or decreas-

Art Unit: 2873

ing the size of, and increasing the concentration of, the emitted coherent energy. Claim 13 is therefore rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, along with claims 14-16 which depend from claim 13.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al. (US-5,513,201-A).

FOR EXAMINATION PURPOSES ONLY the objected-to phrase “located near the first end of a housing structure” (Claim 10, line 2) is omitted in the analysis which follows.

In regard to claim 10 Yamaguchi et al. discloses a beam integrator system (*e.g. semiconductor laser apparatus*) (**FIG. 3**) comprising: a laser diode **10**; a plurality of emitters which are positioned in an end-to-end position with respect to one another and located within the laser diode (col. 7, ln. 54-col. 8, ln. 2); a plurality of microlens **20**, wherein each microlens is attached and aligned with one of the plurality of emitters (col. 8, ln. 3-12); a plurality of dove prisms **30** which are positioned in an array (col. 8, ln.13-24; col. 20, ln. 55-65; **FIG. 30**) and wherein each of the dove prisms **30** are respectively aligned with each corresponding emitter and a microlens **20**; and an integrator lens **50** (*e.g. a focusing lens*) (col. 8, ln. 58-60). Claim 10 is therefore anticipated by Yamaguchi et al.

In regard to claim 11 Yamaguchi et al. discloses a semiconductor laser apparatus (**FIG. 3**) that clearly embodies/illustrates a method of integrating a plurality of beams to form a beam with a near circular cross section (col. 4, ln. 58-col. 5, ln. 13) comprising: [*a step for*] rotating the beams by an angle to obtain associated rotated beams, wherein the beams are generated by a plurality of emitters, and where the rotating step is performed by an array of optical elements **30** (col. 8, ln.13-24; col. 20, ln. 55-65; **FIG. 30**) ; [*a step*

Art Unit: 2873

for] combining the associated rotated beams by passing the associated rotated beams through a positive lens **50** to form at least one combined beam (col. 8, ln. 58-60); and varying the cross section of the combined beam, by passing the at least one combined beam through an anamorphic (*e.g. cylindrical*) lens **40** (col. 15, ln. 4-14). Claim 11 is therefore anticipated by Yamaguchi et al.

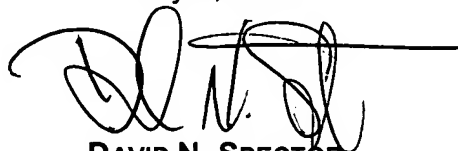
In regard to claim 12 Yamaguchi et al. discloses a method of integrating a plurality of beams to form a beam with a near circular cross section according to claim 11; wherein the optical element **30** is a micro-dove prism (col. 8, ln.13-24; col. 20, ln. 55-65; **FIG. 30**). Claim 11 is therefore anticipated by Yamaguchi et al.

Other Remarks/Information

9. Claims 1-9 and 13-16 have not been formally examined on the merits due to the rejection (above in this Office action) of applicant's independent claims 1 and 13, under the first and second paragraphs (respectively) of 35 USC §112. IT IS CLEAR FROM A CURSORY INSPECTION, HOWEVER, THAT NONE OF THE DEPENDENT CLAIMS 2-9 AND/OR CLAIMS 14-16 RECITES FEATURES/LIMITATIONS WHICH ARE NOT DISCLOSED BY YAMAGUCHI ET AL. (US-5,513,201-A).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David N. Spector whose telephone number is (571) 272-2338. The examiner can normally be reached at this number Monday through Friday between 6:00 AM and 2:30 PM. The fax number for the organization where this application is assigned is (703) 872-9306.

July 7, 2004

A handwritten signature in black ink, appearing to read 'D. N. Spector', with a long horizontal line extending to the right.

**DAVID N. SPECTOR
PRIMARY EXAMINER
ART UNIT 2873**